

Modular Portable Life Support System (PLSS) to Increase EVA Mobility and Reduce Consumables

Completed Technology Project (2014 - 2018)



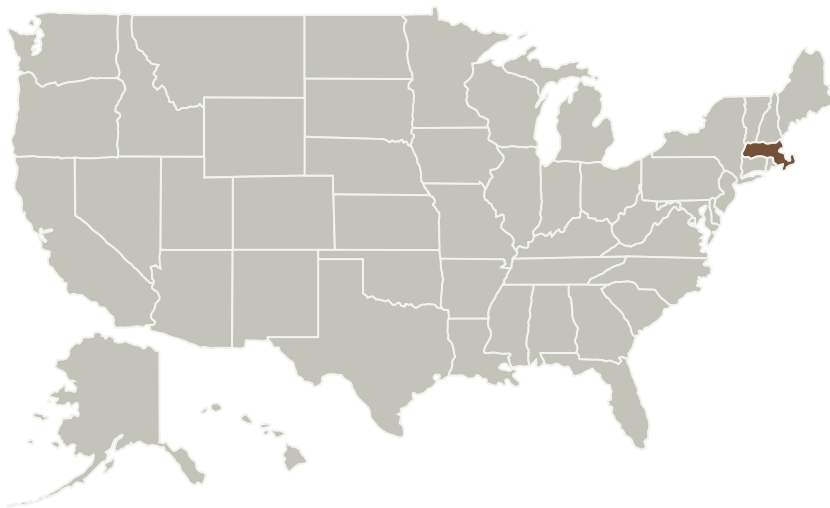
Project Introduction

This proposal seeks to analyze the requirements for a modular portable life support system (PLSS) for a highly mobile, lightweight suit, and quantify mobility and bioenergetics as a function of subsystem placement for both gas-pressurized suits and advanced suit concepts. This will inform suit/PLSS design of both current (Z-series) and next-generation suits.

Anticipated Benefits

This will inform suit/PLSS design of both current (Z-series) and next-generation suits.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Massachusetts Institute of Technology(MIT)	Lead Organization	Academia	Cambridge, Massachusetts

Primary U.S. Work Locations

Massachusetts



Modular Portable Life Support System (PLSS) to Increase EVA Mobility and Reduce Consumables

Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Project Website:	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	3
Technology Areas	3
Target Destinations	3

Modular Portable Life Support System (PLSS) to Increase EVA Mobility and Reduce Consumables

Completed Technology Project (2014 - 2018)



Project Website:

<https://www.nasa.gov/directorates/spacetech/home/index.html>

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Massachusetts Institute of Technology (MIT)

Responsible Program:

Space Technology Research Grants

Project Management

Program Director:

Claudia M Meyer

Program Manager:

Hung D Nguyen

Principal Investigator:

Jeffrey A Hoffman

Co-Investigator:

Nikhil Vadhavkar

Modular Portable Life Support System (PLSS) to Increase EVA Mobility and Reduce Consumables

Completed Technology Project (2014 - 2018)



Technology Maturity (TRL)

Start: **2**
Current: **2**
Estimated End: **3**



Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.2 Extravehicular Activity Systems
 - └ TX06.2.2 Portable Life Support System

Target Destinations

Earth, The Moon, Mars